

DEPARTMENT OF DEFENSE

**PLAN TO ESTABLISH PUBLIC ACCESS
TO THE RESULTS OF FEDERALLY FUNDED RESEARCH**



February 2015

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1.	BACKGROUND and PURPOSE.....	1
2.	PROJECTED SCOPE.....	2
3.	PROJECTED REQUIREMENTS	2
3.1	Peer Reviewed Scholarly Publications	2
3.2	Digitally Formatted Scientific Datasets	2
4.	DEFINITIONS [proposed]:	4
5.	PROJECTED APPLICABILITY	6
6.	POTENTIALLY RELEVANT STATUTES, REGULATIONS, and ISSUANCES	6
7.	PROSPECTIVE ROLES	7
7.1	Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)):	7
7.2	The Assistant Secretary of Defense for Research and Engineering (ASD(R&E)):	7
7.3	Defense Technical Information Center (DTIC)	8
7.4	Heads of DoD Components:	8
7.5	Authors:.....	9
8.	IMPLEMENTATION	9
8.1	Planning	9
8.2	Timeline	10
8.3	Submission	12
9.	MANAGEMENT	12
9.1	Peer Reviewed Scholarly Journal Publications.....	12
9.2	Digitally Formatted Scientific Data	13
9.3	Access and Discoverability	14
9.4	Preservation.....	15
10.	METRICS, COMPLIANCE and EVALUATION:	15
11.	PUBLIC CONSULTATION EXPERIENCE	16
12.	INTERAGENCY COORDINATION	16
13.	PUBLIC NOTICE.....	16
14.	UPDATE AND RE-EVALUATION OF THE PLAN	17
15.	TIMELINE FOR IMPLEMENTATION	17
16.	RESOURCES	17
17.	ADDITIONAL INFORMATION.....	18

DoD Plan to Establish Public Access to the Results of Federally Funded Research

February 2015

1. BACKGROUND and PURPOSE

This document is a draft plan submitted to Office of Science and Technology Policy (OSTP) in accordance with the requirement specified in section 2 of the February 22, 2013 memorandum “Increasing Access to the Results of Federally Funded Scientific Research.” It is a proposed approach or plan that does not impose any requirements or responsibilities on any Department of Defense (DoD) component. New policy and guidance will be issued in accordance with DoD Instruction 5025.01 “DoD Issuances Program,” and will be published in title 32 Code of Federal Regulations (CFR), as appropriate. DoD policy for intramural research will be established through amendments to the DoD Scientific and Technical Information Program (STIP) issuances DoD Instruction (DoDI) 3200.12 "DoD Scientific and Technical Information (STI) Program (STIP)" and DoD Manual (DoDM) 3200.14 "Principles and Operational Parameters of the DoD Scientific and Technical Information Program." Defense Federal Acquisition Regulation Supplement (DFARS) (48 CFR §§ 200-299) and Department of Defense Grant and Agreement Regulations (DoDGARS) (32 CFR, Chapter I, Subchapter C and 2 CFR, Chapter XI) will be revised for extramural research programs.

This document describes the DoD proposed draft plan that provides an approach to support increased public access to peer reviewed scholarly publications and digitally formatted scientific data arising from unclassified publicly releasable research and programs funded wholly or in part by the DoD, as directed by OSTP Memorandum: “Increasing Access to the Results of Federally Funded Scientific Research”, dated 22 February 2013 and the Undersecretary of Defense for Acquisition Technology and Logistics (USD(AT&L)) Memorandum: “Public Access to the Results of Department of Defense-Funded Research,” dated 9 July 2014. A primary mission of Defense research is to safeguard national security and maintain technological superiority of the U. S. military through advances in science, technology and engineering. By providing greater public access to DoD funded research, the Department seeks to encourage and accelerate scientific breakthroughs and innovation of potential interest to DoD in carrying out its mission. A robust industrial base and commercialization of DoD technologies will also benefit entrepreneurship, and enhance economic growth and job creation. Through the approach described in this proposed plan, DoD intends to promote the following objectives:

- Establish DoD’s commitment to public access to scientific research results.
- Support governance of and best practices for managing scholarly publications and digitally formatted scientific data across the DoD.
- Ensure effective access to and reliable preservation of DoD scholarly publications and digitally formatted scientific data for research, development, and education.
- Preserve and increase the use of research results to enhance scientific discovery.

DoD fully supports free scientific exchanges and dissemination of research results to the maximum extent possible. This proposed plan provides a framework that could be used for information sharing and to promote research collaboration pertaining to publicly releasable results of science, technology and engineering efforts. Having DoD components work together within this proposed framework will yield synergies and innovations no single component can achieve alone. This proposed plan is a draft at this point and has not been adopted as part of the DoD regulatory system or as a definitive course of action.

2. PROJECTED SCOPE

The DoD Public Access plan is a draft approach that proposes to encompass any manuscript or digitally formatted scientific data set that:

- Is publicly releasable;
- For scholarly publications, is accepted for publication in a peer reviewed journal; and
- Arises from:
 - Any direct funding from a DoD grant or cooperative agreement; or
 - Any direct funding from a DoD contract; or
 - Any direct funding from any DoD Intramural Program; or
 - Any clinical investigations from operations and maintenance appropriations.

Implementation will be prospective and will not apply to any digitally formatted scientific data sets created or manuscripts published before a DoD policy has taken effect.

3. PROJECTED REQUIREMENTS

3.1 Peer Reviewed Scholarly Publications

According to this proposed plan, formal regulations and issuances will be promulgated requiring authors to submit to the DoD public access archive system final peer reviewed manuscripts that meet the Prospective Scope criteria described in Section 2, once the manuscript is accepted for publication. In lieu of the final peer reviewed manuscript, DoD will accept the final published article, provided the author has the right to submit the published version.

The OSTP memorandum directs that these final peer reviewed manuscripts be freely available to the public no later than 12 months following publication. In the implementation stage of this proposed draft plan, a new requirement will be included in the appropriate provisions for contracts, grants, cooperative agreements and any DoD intramural program.

3.2 Digitally Formatted Scientific Datasets

In accordance with OSTP Memorandum, digitally formatted scientific data resulting from unclassified, publicly releasable research supported wholly or in part by DoD funding should be stored and publicly accessible to search, retrieve, and analyze to the extent feasible and

consistent with applicable law and policy; agency mission; resource constraints; and U.S. national, homeland, and economic security. For the purposes of this draft proposed plan, data will not be publicly releasable if release would compromise the ability to file for intellectual property protection on any invention arising from the data.

Implementation of this OSTP direction will require that formal regulations and issuances be developed. These regulations and issuances will require DoD components to ensure public access to unclassified publicly releasable digitally formatted scientific data, created or gathered in the course of work that meet the Projected Scope criteria above at no more than incremental cost and within a reasonable time. When it is feasible, DoD will provide unclassified publicly releasable data to which it has title without cost. Resources necessary to implement the plan will be drawn from the existing DoD budget since no additional funds will be provided to accommodate the associated costs. DoD will work to provide access through the web on DoD, federal government, and public/private areas. Where it is not feasible to provide data through the web, DoD may be able to recover nominal production, media, and shipping costs.

For each DoD research effort, funded in accordance with 10 United States Code (U.S.C.) §2358, a new requirement will be developed for inclusion in funding instruments directing the submission of a Data Management Plan that either conforms to a format specified by the funded institution or such other format that meets the requirements of the prospective policy. If, for legitimate reasons, the data cannot be preserved and made available for public access, the plan will include a justification citing such reasons.

The Data Management Plan will describe the digitally formatted scientific data created or gathered in the course of DoD intramural and extramural research. The plan will describe how and where the data will be made available to the public and explicitly describe how the data that underlies scientific publications will be available for discovery, retrieval, and analysis.

A supplementary “Data Management Plan” document will become an integral part of all contract or grant proposal packages. This supplement will describe how the proposal will conform to forthcoming DoD policy on the dissemination and sharing of research results and may include:

- The types of data, software, curriculum materials, and other materials to be produced in the course of the project that are publicly releasable;
- The standards to be used for data and metadata format and content;
- Conditions for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
- Conditions and provisions for re-use, re-distribution, and the creation of derivative works; and
- Plans for archiving datasets, or data samples, and other digitally formatted scientific data, and for preservation of access thereto.

- If, for legitimate reasons, the data cannot be preserved and made available for public access, the plan will include a justification citing such reasons.

DoD will:

- Allow for inclusion of costs for data management and access in proposals;
- Determine the extent of direct data management and access costs appropriately associated with programs;
- Work with the Office of Management and Budget (OMB) and other agencies on the allowability of indirect costs for data management and access within the applicable cost principles;
- Explore, together with other departments and agencies, the development of a research data commons, a federated system of research databases for storage, discoverability, and reuse of data with a particular focus on making the data underlying the conclusions of peer reviewed scientific publications resulting from federally funded scientific research available for free at the time of publication; and
- Ensure that data management plans include clear plans for sharing research data and that data underlying the conclusions of scientific publications resulting from DOD awards are freely available to the public before making subsequent awards.

4. DEFINITIONS [proposed]:

Approval for public release. Information reviewed by the Office of Security Review or other cognizant entity results in one of the following determinations: Cleared for Public Release; Cleared “with Recommendations” for Public Release; Cleared “as Amended” for Public Release. (DoD Instruction 5230.29, “Security and Policy Review of DoD Information for Public Release,” January 8, 2009)

Data. The digital recorded factual material commonly accepted in the scientific community as necessary to validate research findings including data sets used to support scholarly publications, but does not include laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens. (OMB circular A-110)

Data management plan. A document that describes what data is generated through the course of the proposed research will be shared and preserved, and how it will be done, or explains why data sharing and/or preservation are not possible or scientifically appropriate, or why the costs of sharing and/or preservation are incommensurate with the value of doing so.

Final peer reviewed manuscript. An author's final manuscript of a peer reviewed paper accepted for journal publication, including all modifications from the peer review process.

Final published article. A publisher's authoritative copy of the paper, including all modifications from the publishing peer review process, copyediting, stylistic edits, and formatting changes. Also referred to as Version of Record (VOR).

Metadata. To facilitate common understanding, a number of characteristics, or attributes, of data are defined. These characteristics of data are known as "metadata," that is, "data that describes data" (ISO 11179-3 Information about data). For any particular datum, the metadata may describe how the datum is represented, ranges of acceptable values, its relationship to other data, and how it should be labeled. Metadata also may provide other relevant information, such as the responsible steward, associated laws and regulations, and access management policy. Each of the types of data described above has a corresponding set of metadata. Two of the many metadata standards are the Dublin Core Metadata Initiative (DCMI) and Department of Defense Discovery Metadata Standard (DDMS). The metadata for structured data objects describes the structure, data elements, interrelationships, and other characteristics of information, including its creation, disposition, access and handling controls, formats, content, and context, as well as related audit trails. Metadata includes data element names (such as Organization Name, Address, etc.), their definition, and their format (numeric, date, text, etc.). In contrast, data is the actual data values such as the "U.S. Patent and Trade Office" or the "Social Security Administration" for the metadata called "Organization Name." Metadata may include metrics about an organization's data including its data quality (accuracy, completeness, etc.). Source: Federal Enterprise Architecture Program, "The Data Reference Model Version 2.0," November 17, 2005.

Personally Identifiable Information (PII). Information about an individual that identifies, links, relates, or is unique to, or describes him or her, e.g., a social security number; age; military rank; civilian grade; marital status; race; salary; home/office phone numbers; other demographic, biometric, personnel, medical, and financial information, etc. Such information is also known as personally identifiable information (i.e., information which can be used to distinguish or trace an individual's identity, such as their name, social security number, date and place of birth, mother's maiden name, biometric records, including any other personal information that is linked or linkable to a specified individual). (DoD 5400.11-R "Department of Defense Privacy Program," May 14, 2007)

Proprietary information. Information relating to or associated with a company's products, business, or activities, including, but not limited to, financial information; data or statements; trade secrets; product research and development; existing and future product designs and performance specifications; marketing plans or techniques; schematics; client lists; computer programs; processes; and knowledge that have been clearly identified and properly marked by the company as "proprietary information," trade secrets, or company confidential information. The information must have been developed by the company and not be available to the government or to the public without restriction from another source. Proprietary markings are assigned pursuant to Public Law 104-294; 28 U.S.C. § 1498(a); title 17, U.S.C.; 18 U.S.C. §

1905; and 15 U.S.C. § 638. (DoD Instruction 5230.24 “Distribution Statements on Technical Documents,” August 23, 2012)

Review for public release. The process by which information that is proposed for public release is examined for compliance with established national and DoD policies and to determine that it contains no classified or export-controlled information. (DoD Directive 5230.09, “Clearance of DoD Information for Public Release,” current through August 22, 2015) A review for public release is also applicable to information governed by the provisions of: DoD Instruction 3216.02 “Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research;” Title 32 of the Code of Federal Regulations (CFR) part 219 Protection Of Human Subjects; DoD 5400.11-R “Department of Defense Privacy Program;” DoD 6025.18-R, “DoD Health Information Privacy Regulation;” Genetic Information Nondiscrimination Act of 2008; 45 CFR parts 160, 162, and 164; and the Health Insurance Portability and Accountability Act of 1996 (HIPAA) Administrative Simplification Regulations.

5. PROJECTED APPLICABILITY

The proposed DoD Public Access plan will apply to:

- All DoD components;
- DoD-funded research efforts under one of the following vehicles, provided its requirements were incorporated into the funding instrument:
 - DoD grant or cooperative agreement; or
 - DoD contract; or
 - DoD intramural program
 - Any clinical investigations from operations and maintenance appropriations.

6. POTENTIALLY RELEVANT STATUTES, REGULATIONS, and ISSUANCES

The U.S. legal and policy landscape promotes access to scholarly publications and digitally formatted scientific data produced in the federal and federally funded realms. The elements of this landscape potentially most relevant to public access to scholarly publications and digitally formatted scientific data sets are summarized below:

- Undersecretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)) Memorandum: “Public Access to the Results of Department of Defense-Funded Research,” July 9, 2014 <http://dtic.mil/dtic/pdf/PublicAccessMemo2014.pdf>
- DoD Instruction 3200.20 “Scientific and Engineering Integrity,” July 26, 2012, affirms the Department’s policy to maximize the free flow of scientific and engineering information developed or used by DoD to the public, consistent with applicable law and regulation.

- Under Secretary of Defense for Acquisition, Technology, and Logistics Memorandum, “Fundamental Research,” May 24, 2010.
- National Security Decision Directive 189, “National Policy on the Transfer of Scientific, Technical, and Engineering Information,” September 21, 1985.
- America COMPETES Reauthorization Act of 2010 (Pub. L. No. 111-358), Section 103, outlines the OSTP Director’s “responsibility to coordinate Federal science agency research and policies related to the dissemination and long-term stewardship of the results of unclassified research, including … peer reviewed scholarly publications, supported wholly, or in part, by funding from the Federal science agencies.”
- Copyright Law (17 U.S.C. §105) provides that “copyright protection under this title is not available for any work of the United States Government.”
- The Freedom of Information Act (5 U.S.C. §552) provides for public access to the records of the federal government.
- Office of Management and Budget (OMB) Circular A-130 specifies that “[t]he open and efficient exchange of scientific and technical government information … fosters excellence in scientific research and effective use of federal research and development funds.”
- The Paperwork Reduction Act (44 U.S.C. §35) has as one of its key purposes to “ensure the greatest possible public benefit from and maximize the utility of information created, collected, maintained, used, shared and disseminated by or for the federal government.”

The Department fully recognizes proprietary interests, business confidential information, and intellectual property. The DoD will structure the implementation of its public access plan accordingly.

7. PROSPECTIVE ROLES

Under the projected DoD policy for public access, the following roles will be established by appropriate policy documents, regulations and issuances:

7.1 Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)):

- Will assign overall executive responsibility for establishing, managing, and implementing public access to peer reviewed scholarly publications and digitally formatted scientific data to the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)).

7.2 The Assistant Secretary of Defense for Research and Engineering (ASD(R&E)):

- Will assume Department-wide authority, control, and management of the public access initiative.

- Will develop DoD policy for public access to scholarly publications and digitally formatted scientific data.
- Will coordinate a sustainable funding strategy to implement the projected policy.
- Will coordinate the implementation of the projected policy.
- Will coordinate the collaboration and cooperation of public access with other federal agencies.

7.3 Defense Technical Information Center (DTIC)

- Will create and maintain an input system for peer reviewed scholarly publications.
- Will create and maintain a DoD data set catalog/locator that points to the location of DoD publicly available data sets.
- Will maintain a database for research in progress for the USD(AT&L), including metadata for publications and a record of submissions to DTIC.
- Will maintain an online search for metadata and full text of peer reviewed scholarly publications, both the author's final peer reviewed manuscript, and the publisher's final copy (as provided by the publishers or authors) after the 12 month embargo period. This system will provide metadata and abstracts for such publications in a way that is open, readable, and available for bulk download. Metadata will be linked to the manuscript or published article to ensure that attribution to authors, journals, and original publishers is maintained.
- Will track metrics on compliance and public usage.

7.4 Heads of DoD Components:

- Will include the requirements of the public access initiative as terms and conditions of funding instruments for grants, contracts, and agreements.
- Will develop practical funding mechanisms to ensure the successful implementation of the public access initiative.
- Will ensure scholarly publications authored by DoD employees were not copyrighted in the United States, and secure a government use license for those publications (17 U.S.C. §105).
- Will ensure the author's final peer reviewed manuscript and any subsequent errata from research performed by DoD employees, or through a contract, grant, or cooperative agreement will be submitted to DTIC when it is accepted for publication, when the final title and date of publication are known.
- Will report each journal article and confirm its submission to DTIC in the component's research in progress record for that project.

- Will ensure compliance with the projected public access policy.

7.5 Authors:

- Will be advised to work with the publisher before any publication rights are transferred to ensure that all conditions of the projected DoD public access policy can be met.
- Will be advised not to sign any agreements with publishers that do not allow the author to comply with the projected DoD public access initiative.
- Will be required to deposit the final peer reviewed manuscript and any subsequent errata at DTIC when it is accepted for publication, when the final title and date of publication are known.
- Will prepare plans for management and sharing of digitally formatted scientific data to ensure that all conditions of the projected DoD public access policy are met.
- Will include provisions in their plans for the preservation and public access to digitally formatted scientific data.
- Will implement the plans by providing the data sets to appropriate repositories.
- Will provide metadata for each data set, including subject, characteristics, and location to DTIC's DoD data set catalog.

8. IMPLEMENTATION

This draft proposed plan describes major implementation requirements addressing the planning, submission, management, access, and preservation of scholarly publications.

DTIC will collect journal articles, data management plans, and will track metrics on compliance and public usage. The current DTIC infrastructure will be modified to accommodate new requirements. At the same time DoD will monitor processes adopted by other federal agencies and, if possible, adopt their best practices. For example, DoD will collect the author's final manuscript, use a feed from the publisher's website for the version of record during the embargo period and then make both versions available after the embargo.

8.1 Planning

The DoD will adopt through appropriate documents, including through DoD regulations and issuances, a systematic approach to implement a public access policy.

General Principles:

- Establish an iterative process of policy design, planning, implementation, evaluation and impact assessment, and policy redesign.
- Work in full and open consultation with all stakeholders, including other federal agencies, to maintain and improve the public access policy.

- Explore opportunities and mechanisms to work and interact, as appropriate, with the private sector.
- Create a framework for identification, storage, and accessibility of digitally formatted scientific data.
- Ensure the public can locate, and download unclassified, publicly releasable digitally formatted scientific data.
- Make sure the government maintains appropriate data rights to allow the public to read, download, and analyze in digital form at the beginning of the process. DoD will use standard government-wide data rights language.
- Maintain attribution to authors, journals, and original publishers through the linkage to bibliographic metadata.
- Ensure the public can search, read, and download the final peer reviewed manuscripts or published articles, without charge, no later than 12 months following publication.

8.2 Timeline

The DoD expects to initiate a rulemaking process that will put the proposed plan, subject to revisions determined appropriate, into effect in accordance with DoDI 5025.01. Current projections estimate the start date to be in fiscal year (FY) 15. The process will include new issuances and modifications to issuances identified in this section, including:

- Public Access to Publications and Data from Department of Defense Funded Research and Defense Health Program (to be issued).
- DoDI 3200.12 "DoD Scientific and Technical Information (STI) Program (STIP)."
- DoDM 3200.14 "Principles and Operational Parameters of the DoD Scientific and Technical Information Program."
- Defense Federal Acquisition Regulation Supplement (DFARS) (48 CFR §§ 200-299).
- Department of Defense Grant and Agreement Regulations (DoDGARS) ((32 CFR, Chapter I, Subchapter C and 2 CFR, Chapter XI).

The DoD will aggressively pursue a course of action to ensure that the infrastructure for managing public access assets will be in place and ready for voluntary submissions by the end of calendar year 2015. At the same time, the Department will initiate processes for DoD intramural programs. The rulemaking process including the public comment period takes approximately 24 months. The Department anticipates that implementation of the proposed public access policy in contract, and grant and agreement regulations will be completed in the fourth quarter of FY16. The regulations will stipulate that public access requirements are not retroactive and do not apply

to research programs awarded before the policy effective date. Before the policies are in place, at the end of FY15 and beginning in FY16, DoD will begin pilot projects for voluntary submission of intramural, contract and grant journal articles and data sets.

8.2.1 Actions proposed in FY15 and FY16:

- Develop a plan to modify existing procedures and infrastructure to conform to public access policy.
- Develop guidance on risk analysis procedures to prevent public release of classified and sensitive unclassified information, and to avoid consequences resulting from aggregation or compilation of information or data that are harmful to national security.
- Develop guidance, for investigators, to ensure the integrity of patentable information and data is maintained.
- Develop guidelines for compliance with requirements of section 515 of Public Law 106–554, the Information Quality Act, for digitally formatted scientific data sets hosted on DoD systems.
- Require data management plans to include estimated uncertainties or measurement errors associated with data.
- Define analytical processes to determine the balance between relative value of long-term preservation and access and associated cost and administrative burden.
- A new regulation for Research and Defense Health Programs funded by the DoD will include requirements for:
 - Submission of peer reviewed scholarly journal articles in accordance with defined procedures; and
 - Design and execution of data management plans.
- Appropriate changes will be implemented on the following DoD policies and issuances per the provisions outlined in the new issuance for Research and Defense Health Programs funded by the DoD
 - DoDI 3200.12 and DoDM 3200.14.
 - DFARS 252.235-7011 (48 CFR §§ 200-299)
 - DoDGARS (32 CFR, Chapter I, Subchapter C, and 2 CFR Chapter XI).
- In coordination with other federal agencies, DoD will provide guidance on scientific data management, analysis, storage, preservation, and stewardship, including but not limited to:
 - Guides to writing data management plans,
 - Examples of data management plans,
 - Guides to journal article copyright licenses,

- Guides to reporting article submission to journal publishers, and
- Training, education and workforce development.

8.3 Submission

8.3.1 Peer Reviewed Scholarly Journal Articles

The DoD plans to establish a system to enable the submission of final, peer reviewed manuscripts or final published articles that includes the following functionalities:

- Enable users to submit and manage manuscripts.
- Allow submission by the author, the publisher, or the manager of the funding agreement.
- Accept manuscripts in a range of common electronic formats.
- Accept any additional files of figures, tables, or supplementary information included with the manuscript.
- Provide flexible and multiple approaches to manuscript submission.

8.3.2 Digitally Formatted Scientific Data

The DoD plans to establish a system to enable identification, appropriate attribution, storage and accessibility of publicly releasable, digitally formatted scientific data through a federated system of storage assets. By ensuring public access, DoD will enable the potential for creative reuse of federally funded research and development (R&D), to enhance the value to all stakeholders and maximize the impact of the federal research investment. Estimated timeline for implementation is detailed in section 8.2.1.

- DoD will adopt federal-wide common standards for data and repositories.
- Data assets will be stored in publicly accessible databases, where appropriate and available. They may be stored at institutional repositories or a central environment, for example the cloud. A DoD data set catalog/locator will enable discovery of the data sets.
- DoD will compare the costs, benefits, feasibility, risks, and issues related to long term access to third party repositories.
- DoD will develop requirements for the submission of metadata to DTIC. The metadata for scientific data will include, at a minimum, the common core metadata schema in use by the federal government, found at <https://project-open-data.cio.gov/>.

9. MANAGEMENT

9.1 Peer Reviewed Scholarly Journal Publications

The DoD plans to use the DTIC's database system to serve as a repository of full-text scholarly publications. This system:

- Stores, organizes, and manages the publications collected or submitted under this policy.
- Uses an open architecture and follows industry standards to facilitate open government, enable integration, and promote interoperability.
- The public-facing portion of the DTIC database offers access to over 2M information assets documenting the results of DoD-funded research. Using the DTIC infrastructure to incorporate requirements of public access will avoid unnecessary duplication of existing mechanisms. These assets are also available through science.gov, a portal that searches over 60 databases of research results from 15 federal agencies. The incorporation of peer reviewed scholarly journal publications will enhance value to all stakeholders by allowing interested parties to reuse the full spectrum of federally-funded research within or across disciplines.
- Has the capacity to integrate scholarly publications with appropriate scientific databases.
- Enables components to monitor compliance with this public access policy.

9.2 Digitally Formatted Scientific Data

The Department's objective is to make digital data sets available to the public to the extent feasible with agency mission and resources available. The DoD goal is to implement a decentralized approach for storing data in public repositories, with a centralized data catalog/locator at DTIC to consolidate the metadata for compliance, measurement and discovery. This approach matches the way that DoD R&D funds are allocated to the military departments and other DoD components and will allow resident subject matter experts to oversee stewardship of the digital data within their respective disciplines.

Data underlying the conclusions of peer-reviewed journal publications will be made freely available at the time of initial publication. The data will be presented in machine readable format consistent with the Department's implementation of OMB Memorandum M 13-13.

The DoD will design, implement, and maintain a sustainable network of data management capabilities to enable discovery, appropriate use, and long term management of publicly releasable digitally formatted scientific data. This includes but is not limited to:

- Development of a centralized database of metadata at DTIC, which incorporates links to the digital data assets, and related documentation, reports, and journal articles.
- Development of procedures to ensure data integrity over time.
- The metadata for scientific data will include, at a minimum, the common core metadata schema in use by the federal government, found at <https://project-open-data.cio.gov/>.

9.3 Access and Discoverability

9.3.1 Peer Reviewed Scholarly Journal Publications

The DTIC public-facing website will ensure easy search, analysis and download of peer reviewed scholarly publications arising from research funded by DoD. DTIC's responsibilities to ensure public access will include:

- Properly maintaining the system to ensure it is reliably available through the Internet.
- **Embargo:** Final peer reviewed journal articles will be available without charge following a 12-month embargo period starting on the date of publication. DoD will provide a mechanism for accepting petitions for changes to the 12-month embargo, including email, phone, and mailing address. Such petitions should present compelling, statistically based evidence that a change is necessary to promote the quality and sustainability of scholarly publications with due consideration of taxpayer rights. DoD will work with other federal science agencies to promote consistent implementation of embargoes for specific scientific fields.
- **Search:** DTIC's public-facing website allows users to search, retrieve, and analyze results of DoD-funded research.
- **Access to metadata:** The public will have access to journal article metadata without charge upon first publication through the public-facing DTIC website, the author and/or the publisher. The metadata will ensure attribution to authors, journals and original publishers, and provide a link to the full text at the publisher's website, if available. After the embargo period the full text will be posted on the public-facing DTIC website together with the associated supplemental materials.
- **Acceptable use policies:** Use of the articles will be subject to copyright and related license terms.
- **Bulk downloads for research, and managing the restriction on unauthorized bulk downloads.** Bulk downloads will be permitted only as authorized and by special arrangement. DoD web usage monitoring protocols will alert system administrators of potentially improper practices. These will be investigated as they occur. DoD will publish a warning regarding copyright and prohibitions under the terms of use statement. DoD will investigate mechanisms and technologies that monitor and prevent the unauthorized mass redistribution of scholarly publications in FY15.
- **Exposure to third party services.** DoD will make the metadata for journal articles available through the Open Archives Initiative (OAI) to public crawlers, such as Google, Bing, etc. Links to the full text will be consistent with embargo constraints described above.

- **508 compliance.** DoD will ensure the system is accessible to persons with disabilities and compliant with section 508a of the Rehabilitation Act (29 U.S.C. § 794d).

9.3.2 *Digitally Formatted Scientific Data*

- **Search:** A centralized database of metadata will enable retrieval by instrument number, performing organization, sponsoring organization, subject category, etc.
- **Acceptable use policies:** Data that is not approved for public release will not be included under this plan.
- **Bulk downloads for research, and managing the restriction on unauthorized bulk downloads.** Bulk downloads will be permitted only as authorized and by special arrangement. DoD web usage monitoring protocols will alert system administrators of potentially improper practices. These will be investigated as they occur. DoD will publish a warning regarding copyright and prohibitions under the terms of use statement.
- **Exposure to third party services.** DoD will make the locator catalog for publicly releasable digitally formatted scientific data available through OAI to public crawlers, such as Google, Bing, etc. Public digitally formatted scientific data sets will be made available through de facto open standards.
- **508 compliance:** DoD will ensure the system is accessible to persons with disabilities and compliant with section 508a of the Rehabilitation Act (29 U.S.C. § 794d).

9.4 Preservation

The DoD will ensure the permanent preservation and long term accessibility of peer reviewed scholarly publications by adopting sound, non-proprietary preservation standards and archival formats; and developing practical backup, migration, and technology refreshing strategies.

Digitally formatted scientific data sets will be preserved on government, DoD, and private sector hosts for as long as practicable. When preservation is no longer economically feasible, the data set owners will conduct an assessment on the inherent value of the data and provide a recommendation on whether to transfer the data elsewhere or to abandon the notion of preservation. Data deemed valuable will be preserved on government hosts such as the cloud.

10. METRICS, COMPLIANCE and EVALUATION:

DoD proposes to design, develop, and execute a web-based compliance monitor that issues certification tokens to authors who submit digitally formatted scientific data and articles. DTIC will establish compliance metrics in FY15.

DoD will explore the use of a database and federal data sources such as usaspending.gov and the Federal Data Procurement System as the basis for the compliance and tracking system for both journal articles and digitally formatted scientific data sets from research. ASD(R&E) will report on compliance to OSTP. Projected functionalities will include:

- Metadata on articles submitted to publishers: Authors and Co-Authors, Subject, Title, Date submitted, Status (in peer review, accepted by journal, date set for publication), Date published, Journal title, Copy of author's accepted manuscript, Link to journal (or other established repository) for public and DoD access, Embargo period end date, Public Affairs (PA) and Operations Security (OPSEC) review confirmation.
- Metadata on Digital Data: Summary of Data Management Plan, List of digital datasets identified for access and preservation, Location of preservation archive, Distribution code for each dataset, Metadata for each dataset identified, Methodology for public access, Compliance status, PA and OPSEC review confirmation.
- Analytics to track compliance:
 - Comparison to technical reports database,;
 - Comparison of usaspending.com and fpds.gov records reported;
 - Comparison to the research in progress database;
 - Testing to determine that data sets are available;
 - Comparison to publisher Fundref data;
 - Public access statistics on published articles;
 - Public access statistics on data sets;
 - Analysis of data sets exempted for national security, economic, and privacy reasons;
 - Comparison of data sets exempted to articles submitted;
 - Testing that data sets do not contain personally identifiable information (PII) and are approved for public release; and
 - Reminders to investigators/authors.

11. PUBLIC CONSULTATION EXPERIENCE

DoD participated at the Public Comment Meeting concerning Public Access to Federally Supported R&D Publications and Federally Supported R&D Data on 14-17 May 2013 at the National Academy of Sciences. DoD participated at a meeting with publisher representatives on 15 May 2013.

12. INTERAGENCY COORDINATION

DoD works with CENDI, an interagency working group of senior federal government STI managers from 13 U.S. federal agencies. Member capabilities are shared and challenges are faced together so that the sum of accomplishments is greater than each individual agency can achieve on its own.

13. PUBLIC NOTICE

DoD will work with other federal government agencies in publishing a generalized public access plan in the Federal Register, soliciting comment from federally funded researchers, universities, libraries, publishers, users of federally funded research results, civil society groups, and the general public.

14. UPDATE AND RE-EVALUATION OF THE PLAN

DoD will conduct an evaluation of accomplishments in August of 2015, and modify the plan where necessary.

15. TIMELINE FOR IMPLEMENTATION

This document is a plan and as such it does not impose any requirements or responsibilities on any DoD component. The timeline projections that follow imply the adoption of official policy through the DoD regulatory system as a necessary prior condition.

FY15. DoD will work on revising policy to support public access of work from contracts, grants, cooperative agreements, and in-house efforts, and work on standards to make the output conform to open standards, such as XML or JavaScript Object Notation (JSON), with metadata standards from the Open Data Project. DoD will change its systems to accept the new formats and initiate a pilot project to process journal articles and a catalog/locator of data sets. DoD components will be required to create a capability to input compliance data into DoD research in progress database.

FY16. Before the formal policies are in place, at the end of FY15 and beginning in FY16, DoD will begin pilot projects for voluntary submission of intramural, contract and grant published articles and data sets. DoD will implement Phase II Pilot project to process >10,000 journal articles and look into hosting the smaller data sets. DoD will implement compliance tracking and enforcement for journal articles. Locator catalog will receive automatic updates. DoD will establish standard data set infrastructure. DoD will achieve operational capability to comply with the requirements of OSTP/OMB requirements as the policy is complete for intramural research, for contracts, and for grants.

FY17. Upon completion of the CFR rulemaking process, DoD components will implement compliance tracking and enforcement for data management plans for intramural research, and through contracts and grants.

FY18. Central data set repository will link to DoD and grantee/contractor data sets automatically, and deliver data to users.

FY19. DoD will create a capability for users to select and access a sub-set of data from repositories. DoD will create larger general repositories and federated search.

16. RESOURCES

Policy implementation will require upfront investments from DTIC. Implementation will require establishment and updates to policy. DoD will frame its implementation plan through policy guidance, and budget programming will have a foundation for DoD Program Objective Memorandum (POM) process and future budget submissions. Incremental funding for data management and publications will be supported through existing research budgets.

17. ADDITIONAL INFORMATION

Additional public access policies and guidance include:

- Association of American Universities. Scholarly Publishing Roundtable. “Report and Recommendations from the Scholarly Publishing Roundtable,” January 2010
<http://www.aau.edu/WorkArea/DownloadAsset.aspx?id=10044>
- Executive Office of the President. National Science and Technology Council. Interagency Public Access Coordination. “A Report to Congress on the Coordination of Policies Related to the Dissemination and Long-Term Stewardship of the Results of Federally Funded Scientific Research,” March, 2012
http://www.whitehouse.gov/sites/default/files/microsites/ostp/public_access-final.pdf
- Executive Order 13642. “Making Open and Machine Readable the New Default for Government Information,” May 09, 2013 <http://www.gpo.gov/fdsys/pkg/FR-2013-05-14/pdf/2013-11533.pdf>
- Library of Congress. National Digital Information Infrastructure and Preservation Program. <http://www.digitalpreservation.gov/>
- National Institutes of Health. “NIH Public Access Policy Details,”
<http://publicaccess.nih.gov/policy.htm>
- Office of Management and Budget. Memorandum for the Heads of Executive Departments and Agencies. “Open Government Directive,” December 8, 2009:
http://www.whitehouse.gov/omb/assets/memoranda_2010/m10-06.pdf
- Office of Management and Budget. Memorandum for the Heads of Executive Departments and Agencies. “Open Data Policy-Managing Information as an Asset,” May 9, 2013 <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf>